



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

APR 9 2004

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference -- Defense Science Board Task Force on the Future of the Global Positioning System

You are requested to form a Defense Science Board (DSB) Task Force on Future of the Global Positioning System (GPS).

As the current global radio navigation system de facto standard, GPS currently dominates commercial and military applications. The European Union's proposed development of Galileo, a global radio navigation satellite system (GRNSS), under civilian operation and control places DoD at a crossroads with respect to the Global Positioning System. The commercial sector's exposure to GPS has whetted its appetite for precision time standards and positioning data; and their demand for robust, persistent, and continuous precision time and position capabilities implies significant growth in the commercial area as new applications are developed.

Without significant DoD movement on GPS, the introduction of Galileo may marginalize GPS to an expensive military use only system. The commercial market now provides significant cost savings to DoD as it develops GPS applications for its customers. However, significant future costs may be incurred by DoD to develop and maintain GPS receivers and other system components if the commercial market spawned by a Galileo product grows to its envisioned size and commercial companies abandon GPS as a niche market.

There is also a blurring of military and civil applications related to homeland security. GRNSS is increasingly critical to infrastructure operations such as power control, energy pipelines, communications, and transportation. Therefore, the operation, control, and robustness of GRNSS are not only a concern for the military but a national security issue for the critical infrastructure as well. If Galileo or some other GRNSS becomes deployed and its penetration of the worldwide civil market proceeds as planned, some of the critical infrastructure functions could be enabled by a GRNSS which is potentially outside US control and influence.



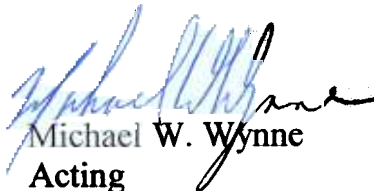
The Task Force should assess the range of issues dealing with Galileo (or some other future radio navigation satellite system) and provide recommendations to address these issues. The assessment should address the following:

- a. Provision of capabilities and services within GPS to ensure its viability in commercial markets. The range of strategic options for the US related to GPS and Galileo range from co-existence to cooperation to competition. This range of options may include moving the management and development of GPS to another government agency;
- b. The impact on frequency spectrum use, signal waveforms and power management;
- c. Access and denial issues throughout the spectrum of conflict;
- d. Possible alternatives to a global radio navigation system including the development of small compact timing devices and/or navigation units. This assessment must include an estimate of the financial impact of incorporating these new devices into legacy weapons and weapon systems;
- e. Vulnerabilities and upgrade strategies for all GRNSS.

The Task Force should assess areas in which DoD should seek strong partnering relationships outside DoD, both within government and industry. It should also recommend research and development areas that are uniquely in DoD interest and might not be accomplished by the private sector.

The study will be co-sponsored by me as the acting USD(AT&L) and the ASD(NII). Dr. James Schlesinger and Dr. Robert Hermann will serve as co-chairs of the Task Force. Mr. Ray Swido, OSD(NII), will serve as Executive Secretary and Lt Col Dave Robertson, USAF, will serve as the Defense Science Board Secretariat representative.

The Task Force will operate in accordance with the provisions of P.L. 92-463, the "Federal Advisory Committee Act," and DoD Directive 5105.4, the "DoD Federal Advisory Committee Management Program." It is not anticipated that this Task Force will need to go into any "particular matters" within the meaning of section 208 of Title 18, U.S. Code, nor will it cause any member to be placed in the position of acting as a procurement official.


Michael W. Wynne
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